

Complementarities between Reading on Print Media And Reading on Electronic devices : For An Integrated Cognitive Development

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Abstract :- The study aims at exploring the complementarities between Print Reading and Electronic Reading. The theoretical backgrounds underline that the print reading allows concentration, and cognition. This type is concurred by the Electronic Reading, which covers abundant scientific information that we must apprehend and integrate in the process of cognition and knowledge, otherwise the risks are obvious. The electronic reading is useful but is negative on some aspects of cognition : concentration and memorization, besides of provoking fatigue. The practice confirms the aspects explored in the theory. The study also concludes that the aspects of access to information rather than the sharing of information are common in the two types of reading and are concomitant in use. The print reading is suitable for books, teaching and research, whereas the electronic reading focuses on periodicals. The internet provides the researchers rapid access to scientific articles, which is not possible by print resources.

Keywords : print reading ; electronic reading ; cognition ; complementarities between print reading and electronic reading.

I. INTRODUCTION

The knowledge has its roots in the long process of reading and writing. In fact, these two last abilities provide the signs of the language and forward permit to the learner to develop his cognition. The finality allows naturally the acquisition of abilities at the mastering of competencies. The reading skills must be permanent to maintain the competencies, to assure the transmission and develop the creative tasks. Regarding the importance of reading in the development of cognition within pupils, students and researchers in order to provide original knowledge, the reading activity must be useful for the sciences : psychology, epistemology, information science. In the context of the development of the internet, the electronic reading is tracing the path in the direction of knowledge to compete the reading on paper.

II. PROBLEM STATEMENT

What are the complementarities between the reading on paper and the reading on screen of the electronic devices ?

III. READING ON PRINT MEDIA

This type of reading provides the reader a motivation to be involved in the text. The metadata of the text such as the order of statements, the title, the introductory phrases and other indices contribute to their evaluation in the knowledge area (Belisle, 2011). It is also adaptable to the long texts. It allows strategies of movements and postures when reading texts. It promotes concentration without fatigue of the eyes. It is also creative and raises the memorization of the texts (Fortunati, 2014). The memorization creates the learning (Mangen, 2013).

IV. ELECTRONIC READING :

This type of reading has also positive aspects which are linked to the information retrieval inside the text using the means of search engines. The writing is also efficient allowing the automatic correction and the movement of the text. It is characterized by the circularity by the means of the links producing hypertexts. The text can also be shared, archived (Fortunati, 2014). Nevertheless, the researches focus on certain lack that hampers the cognitive development : tiredness and stress (Mangen, 2013). This reading is superficial and any effort appeals the mobilization of the brain capacities (Belisle, 2011). The navigation and the scrolling affects the comprehension. The PDF format reduces these effects (Mangen, 2013). Then the best means to use so as to allow the comprehension in the screen reading is to ask questions in order to test the comprehension (Mangen, 2013). According to others, the light of the screen is one of the causes of tiredness (Chang, 2013).

V. THE ERGONOMICS OF ELECTRONIC DEVICES :

As mentioned, the electronic reading causes fatigue, that the screen light transmits in the new devices such as e-books Kindle and Kobo, the quality of light however does not affect the tiredness (Mangen, 2013). Although this affirmation, there are sources that focus on the lack of studies and experiences on their ergonomics (Chang et al, 2013).

VI. THE PRACTICAL SURVEY :

- I. The survey is applied on the teachers of the University Centre of Relizane. The number is only 11 who can be considered as the volunteers to be involved in the study. We used a questionnaire structured into 9 questions either closed or opened. We aimed at exploring the mutations from print reading to the electronic reading.
- 4-1 What is the type of reading that promotes the concentration and what are the reasons to go to the other reading? The response is for 100% of the surveyed teachers the print reading which is the absolute choice. After that, the reader goes to the other type in order to obtain more bibliographic records, or to obtain recent information, to gain time and to realize the internet access.
- 4-2 What is the reading that causes fatigue and what are the reasons that lead you to use the other media afterwards? The surveyed teachers indicate that the electronic reading is for 100% of them the cause of eyes fatigue. After that, they go to the other type in order to browse the books, to review information and allow rest and ease for the purpose of concentration.
- 4-3 What is the reading that promotes the cognition and why you go to the other type afterwards? It appears through the responses that 83% of the sample believe on the effect of print reading. It reveals an important amount to this type. The move to electronic reading afterwards is made for obtaining recent information.
- 4-4 What is the reading that allows access to information and what are the reasons of moving to the other media? The responses are almost equal between the two choices: 45% for the print reading and 55% are favorable for electronic reading. The teachers who chose the print reading as the more suitable for the access of information go to the electronic reading in order to complete the bibliographies. The other teachers who are favorable for electronic reading move to the print reading in order to fix their information previously obtained electronically.
- 4-5 What is the reading that allows more the sharing of information and what are the reasons that lead readers to go to the other type afterwards? 58% of the sample believe on the print reading as the factor of enhancing sharing information and move to electronic reading afterwards in order to increase information. For the others (42% of the sample) see that electronic reading is more suitable to the sharing of information and move to print reading in order to check and verify their information.
- 4-6 What is the reading that promotes the teaching and what are the reasons to move to the other reading? 77% of the sample undertake the print reading and move to the electronic reading rarely and 23% believe on the electronic reading.
- 4-7 What is the reading that promotes research and what are the reasons to move to the other type afterwards? 60% of the sample believe that print reading is more suitable for research and 40% consider that electronic reading is adopted.
- 4-8 What is the reading suitable for books and what are the reasons of moving to an other type of reading? The teachers surveyed (75%) believe that the reading format is made on print and 25% read the books electronically.
- 4-9 What is the reading suitable to the scientific periodicals? 64% of the sample consider that the reading suitable for periodicals is the electronic one.

VII. CONCLUSION :

The literature indicates that the Print Reading has easy use and as a result allows the concentration on the topics. The Electronic Reading at the opposite produces eyes fatigue and leads the individual to the situations of stress (Mangen, 2013). These theses are verified in the practice. The sample of the study in its majority (100%) believes that reading on print permits the concentration and leads consequently to a great cognition (83% of the sample). The electronic resources are also useful for them to augment the knowledge capital. We can fulfill future researchs on the study of the frustration of users when reading on screens because of its risks: fatigue, lack of concentration etc. About the access to the resources of information and the sharing of resources, the study reveals that at the mean, the two types of reading are made concomitantly. The print reading is preferred for reading books, teaching and research. The electronic reading is preferred for reading periodicals.

II. BIBLIOGRAPHY :

- [1] Belisle, Claire (2011). Lire dans un monde numérique. Villeurbanne : Enssib
- [2] Chang, Po-Chan ; Chou, Shuo-Yan ; Shieh, Kong-King (2013). Reading performance and visual fatigue when using electronic paper displays in long duration reading tasks under various lighting conditions. **Displays**, 34, 208-214
- [3] Fortunati, Leopoldina ; Vincent, Jane (2014). Sociological insights on the comparison of writing / reading on paper with writing/reading digitally. **Telematics and Informatics**, 31, 39-51
- [4] Mangen, Anne ; Walgermo, Bente R. ; Bronnack, Kolbjorn (2013). Reading linear texts on paper versus computer screen : effects on reading comprehension. **International Journal of Educational Research**, 58, 61-68